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PHYTOCHEMICAL STUDIES OF *SOPHORA EXIGUA* CRAIB ROOT

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พิมพ์ต้นฉบับบทความวิจัยวิทยานิพนธ์ภายในกรอบสี่เหลี่ยมนี้เพียงแผ่นเดียว

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จากการใช้วิธีทางรังสเลและวิธีการตกผลึก ทำให้สามารถแยกสารชนิดใหม่ในกลุ่มฟลาโวนอน ได้ 1 ชนิด จากรากของต้นพืชชนิด (*Sophora exigua* Craib) คือ 5, 7, 2', 4', 6'-penta-hydroxy-8-lavandulylflavanone (68) และสารกลุ่มเดียวกันที่มีการศึกษามาแล้ว 3 ชนิด คือ exiguaflavanone B (65), exiguaflavanone A (66), kushenol A (67) การพิสูจน์เอกลักษณ์และหาสูตรโครงสร้างของสารเคมีทั้ง 4 ชนิดทำได้โดยการวิเคราะห์ข้อมูลจากคุณสมบัติทางกายภาพ ทางเคมี และข้อมูลทางสเปกโตรสโคปี ในการทดสอบฤทธิ์ทางชีวภาพ พบว่าสาร 66 มีฤทธิ์เป็นสารยับยั้ง Ca^{2+} ATPase ในระดับค่อนข้างดี

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By means of chromatographic and crystallization techniques from the roots of *Sophora exigua* Craib led to the isolation of a novel flavanone, 5, 7, 2', 4', 6'-pentahydroxy-8-lavandulylflavanone (68), and 3 known flavanones, exiguaflavanone B (65), exiguaflavanone A (66), kushenol A (67). The identification and structure elucidation of isolated compounds were executed by the physical and chemical properties and spectroscopic data. The bioactivity assay found that compounds 66 was a moderately strong inhibitor of Ca^{2+} ATPase.

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ABBREVIATIONS

ϵ	= Molar absorptivity
brd	= Broad doublet (for NMR spectra)
brt	= Broad triplet (for NMR spectra)
$^{\circ}\text{C}$	= Degree celsius
$^{13}\text{C-NMR}$	= Carbon-13 nuclear magnetic resonance
cm	= Centimeter
COSY	= Correlated spectroscopy
2D	= Two dimensional
d	= Doublet (for NMR spectra)
dd	= Doublets of doublet (for NMR spectra)
dq	= Doublets of quatet (for NMR spectra)
δ	= Chemical shift
<i>E</i>	= Entgegen : against
EIMS	= Electron impact mass spectrum
ev	= Electron volt
Fig.	= Figure
g	= Gram
$^1\text{H-NMR}$	= Proton nuclear magnetic resonance
Hz	= Hertz
IC ₅₀	= 50% Inhibition concentration
IR	= Infrared
<i>J</i>	= Coupling constant
Kg	= Kilogram
λ_{max}	= Wavelength at maxima absorption
M^+	= Molecular ion
m	= Mutiplet (for NMR spectra)
MeOH	= Methanol
mg	= Miligram
MHz	= Mega Hertz
ml	= Milliliter
mm	= Millimeter
μg	= Microgram
μl	= Microliter
μM	= Micromolar

m/z	= Mass to charge ratio
MPLC	= Medium pressure liquid chromatography
MS	= Mass spectrum
NMR	= Nuclear magnetic resonance
No.	= Number
nm	= Nanometer
ν_{\max}	= Wavenumber at maximum absorption
p	= pentet (for NMR spectra)
q	= Quartet (for NMR spectra)
RBC	= Red blood cell
s	= Singlet (for NMR spectra)
sp.	= Specy
spp.	= Species
t	= Triplet (for NMR spectra)
TLC	= Thin layer chromatography
TMS	= Tetramethylsilane
UV	= Ultraviolet
Z	= Zusammen : together